

CLAIMS

I claim

1. An apparatus for calibrating a tunable filter simultaneously with the measurement wherein the tunable filter exhibits a repeating wavelength transmission at various orders by means of a calibration signal generated by broadband emitter and a gas cell in series where the gas cell and broadband emitter absorb and emit at wavelengths outside the measurement range of interest and at another order of the filter where the unknown signal and calibration signal are combined at the input to the filter by means of a wavelength multiplexer and separated at the output of the filter by a wavelength demultiplexer.

2. The apparatus in 1. where the gas cell instead of being placed at the input of the wavelength multiplexer is instead placed at the output of the demultiplexer.